

CSE3207 Project #1

Implementation of a simple database application

- ✓ Assignment Date: April 14th, 2020
- ✓ Due Date: May 8th, 2020
- ✓ TA: 진영화, Yeong-Hwa Jin (jyh2378@naver.com)
- ✓ Weight: 15% of the course grade.
- ✓ Please read this description carefully.

I. Relational tables

The following relational tables show information about a movie, an actor, a director, an award, and a customer. The underlined attributes are the primary key of a table. In the movie table, a value of 'avgRate' column should be automatically calculated when a customer gives a rate.

```
director(directorID, directorName, dateOfBirth, dateOfDeath)
actor(actorID, actorName, dateOfBirth, dateOfDeath, gender)
movie(movieID, movieName, releaseYear, releaseMonth, releaseDate, publisherName, avgRate)
award(awardID, awardName)
genre(genreName)
movieGenre(movieID, genreName)
movieObtain(movieID, awardID, year)
actorObtain(actorID, awardID, year)
directorObtain(directorID, awardID, year)
casting(movieID, actorID, role)
make(movieID, directorID)
customerRate(customerID, movieID, rate)
customer(customerID, customerName, dateOfBirth, gender)
```

II. Queries

Translate the following statements into SQL and process the query using an application.

After processing the each statement, you should show the results for inserts/deletes/updates queries and the updated tables.

1. Create the tables and insert the proper data based on the provided data. You should make the movie, actor, director, and customer tables first and insert data into other related tables.
2. Insert the proper data from the following statements.

- 2.1. Winona Ryder won the “Best supporting actor” award in 1994
- 2.2. Andrew Garfield won the “Best supporting actor” award in 2011
- 2.3. Jesse Eisenberg won the “Best main actor” award in 2011
- 2.4. Johnny Depp won the “Best villain actor” award in 2011
- 2.5. Edward Scissorhands won the “Best fantasy movie” award in 1991
- 2.7. The Dark Knight won the “Best picture” award in 2009
- 2.6. Alice In Wonderland won the “Best fantasy movie” award in 2011
- 2.8. David Fincher won the “Best director” award in 2011
3. Insert data to the proper tables based on the following statements and update avgRate if necessary.
 - 3.1 Bob rates 5 to “The Dark Knight”.
 - 3.2 Bell rates 5 to the movies whose director is “Tim Burton”.
 - 3.3 Jill rates 4 to the movies whose main actor is female.
 - 3.4 Jack rates 4 to the fantasy movies.
 - 3.5 John rates 5 to the movies whose director won the “Best director” award
4. Select the names of the movies whose actor are dead.
5. Select the names of the directors who cast the same actor more than once.
6. Select the names of the movies and the genres, where movies have the common genre.
7. Delete the movies whose director or actor did not get any award and delete data from related tables.
8. Delete all customers and delete data from related tables.
9. Delete all tables and data.

III. Implementation environment

Programming Languages: Java / Python

DBMS: PostgreSQL (mandatory)

DBMS Connector: JDBC (Java), psycopg2 (Python)

IV. Submission

1. Files to submit:
 - A. Program source files
 - B. README.doc
 - What you have implemented and what you have not
 - Brief explanation of your implementation (less than 1 page)
 - How to compile and run
 - Display result for all queries
 - Talk about your experience of doing this project
 - Write your available contact information such as phone number (just in case)

2. Due date: May 8th, 2020 Midnight
3. Penalty: 20% per day
4. Score
 - A. Create table processing (20%)
 - B. Insert processing (20%)
 - C. Update processing (15%)
 - D. Query processing (15%)
 - E. Delete processing (15%)
 - F. README and comment (15%)

V. Initial data

Movie						
Name	Director	Actor	Role	Genre	Publisher	Release date
Edward Scissorhands	Tim Burton	Johnny Depp	Main actor	Fantasy, Romance	20th Century Fox Presents	1991.06.29
		Winona Ryder	Main actor			
Alice In Wonderland	Tim Burton	Johnny Depp	Main actor	Fantasy, Adventure, Family	Korea Sony Pictures	2010.03.04
		Anne Hathaway	Main actor			
The Social Network	David Fincher	Jesse Eisenberg	Main actor	Drama	Korea Sony Pictures	2010.11.18
		Andrew Garfield	Supporting Actor			
The Dark Knight	Christopher Nolan	Christian Bale	Main actor	Action, Drama, Mystery, Thriller	Warner Brothers Korea	2008.08.06
		Heath Ledger	Main actor			
Dunkirk	Christopher Nolan	Fionn Whitehead	Main actor	Action, Drama, Thriller, War	Warner Brothers Korea	2017.07.13
		Tom Hardy	Main actor			

Director		
Name	Date of birth	Date of death
Tim Burton	1958.8.25	
David Fincher	1962.8.28	
Christopher Nolan	1970.7.30	

Actor			
Name	Date of birth	Date of death	Gender
Johnny Depp	1963.6.9		Male
Winona Ryder	1971.10.29		Female
Anne Hathaway	1982.11.12		Female
Christian Bale	1974.1.30		Male
Heath Ledger	1979.4.4	2008.1.22	Male
Jesse Eisenberg	1983.10.5		Male
Andrew Garfield	1983.8.20		Male
Fionn Whitehead	1997.7.18		Male
Tom Hardy	1977.9.15		Male

Customer		
Name	Date of birth	Gender
Bob	1997.11.14	Male
John	1978.01.23	Male
Jack	1980.05.04	Male
Jill	1981.04.17	Female
Bell	1990.05.14	Female